

Appl. No. 10/689,474
Amdt. Dated September 16, 2005
Reply to Office Action of June 16, 2005

REMARKS

The indication of allowable subject matter in claims 8 and 13 is noted and appreciated.

Claims 2 and 21 have been canceled and incorporated into independent claims 1 and 20, respectively.

Regarding the rejection of claim 20 under 35 U.S.C. 102 as being anticipated by You 5,067,240, it is respectfully submitted that You does not include all of the elements of the amended claim. Claim 20 has been amended to include the elements of claim 21, which require the drive assembly to include “a worm mounted on the drive shaft for rotation therewith, a worm gear being in engagement with the worm and mounted for rotation in the housing, and a drive gear movable with the worm gear and engageable with one of the cutting blades.” It has been admitted in the Office Action that You does not include these elements, so the Section 102 rejection is now inapplicable. Furthermore, claim 20 requires, among other things, “first and second cutting blades connected to the housing at a location which is laterally spaced from the drive shaft.” The movable blade 30 of You is shown in Fig. 1 as being connected to the base 10 at an unnumbered location, generally positioned at the interface between holes 28 and 32 (Fig. 2), which is directly above the screw rod 40. Hence, You does not disclose “first and second cutting blades connected to the housing at a location which is laterally spaced from the drive shaft.” Indeed, the movable blade 30 directly engages the screw portion 41 of the screw rod 40, so it cannot be laterally spaced from the screw rod 40, otherwise it would not be functional. Accordingly, the Section 102 rejection of claim 20 as amended is improper for the above reasons.

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With regard to the various rejections of claim 1, its dependent claims, and independent claim 20 under 35 U.S.C 103(a) in paragraphs 5-9 of the Office Action, it is respectfully submitted that the amendments to claims 1 and 20 overcome these rejections. Both claims 1 and 20 have been amended to require the drive assembly to include “a worm mounted on the drive shaft for rotation therewith, a worm gear being in engagement with the worm and mounted for rotation in the housing, and a drive gear movable with the worm gear and engageable with one of the cutting blades.” It has been admitted in the Office Action that the combinations of You; Pace 4,317,282; and/or Rudolf et al. 6,155,916 do not include these elements, so the Section 103 rejections of paragraphs 5, 6, 8, and 9 are now overcome.

Considering now the paragraph 7 rejection of claims 2 and 21 under 35 U.S.C. §103(a) as being unpatentable over You in view of Pace and further in view of Lazarevic 6,065,212, it is noted that claims 2 and 21 have been incorporated into claims 1 and 20, respectively. It is acknowledged in the Office Action that the combination of You and Pace does not disclose a worm gear, a drive gear, and a main shaft. Lazarevic is cited for these. However, Lazarevic does not provide all of the elements which are missing from the combination of You and Pace, so the rejection of paragraph 7 is incorrect.

First, it is noted that amended claims 1 and 20 do not require a main shaft, but instead require “a worm mounted on the drive shaft for rotation therewith, a worm gear being in engagement with the worm and mounted for rotation in the housing, and a drive gear movable with the worm gear and engageable with one of the cutting blades.” Second, Lazarevic does not include a drive gear movable with the worm gear and engageable with one of the cutting blades.

Instead, as best illustrated in Fig. 2, Lazarevic describes a drive gear 29 that is engageable with two idlers 31 and 32, which in turn are engageable with a segment gear 19, which carries cutter blade 37. Thus, the drive gear of Lazarevic is not engageable with one of the cutting blades.

Furthermore, Lazarevic is not properly combined with You and Pace. The Office Action on page 4 opines that Lazarevic teaches the use of a worm gear 28, a drive gear and a main shaft “for the purpose of obtaining a large torque, which increases the cutting force.” It is respectfully submitted that this is incorrect. Lazarevic’s tube and pipe cutter is not intended to obtain a large torque and the worm gear is not used for this purpose. The reason is a large torque would crush or shatter the pipe. Instead, Lazarevic cuts by a slow, gradual feeding of the cutter 37 toward the axis of the tube while the cutter revolves around the tube. The exterior surface of the tube is scored as the cutter revolves around the surface of the tube. This is an entirely different cutting action from that of You. You uses dual blades moving past each other to produce a shearing action. Lazarevic uses a single blade to produce a scoring action. The single blade and roller assembly of a dedicated tube cutter would be inappropriate to cut a cable, which is not hollow, because it would take entirely too long to cut all the way through a solid cable. These two cutting actions are completely different and not combinable at all.

It can be seen that Lazarevic is directed to a different problem. The present invention, as described in amended claims 1 and 20, is directed to a device which generates a great amount of shearing force through the use of a worm gear assembly. On the other hand, Lazarevic is primarily directed to a tube cutter with an improved mechanism for adjusting the rotating cutting blade to accommodate differently sized tubes. The worm gear assembly of Lazarevic is

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tangential to his primary goal of solving a problem which is unique to tube cutting. Accordingly, one attempting to solve the problem addressed by amended claims 1 and 20 of the present invention would not be motivated to look for the answer in a reference addressing a tube cutting concern. Therefore, it is improper to use a combination of references which includes Lazarevic to reject claims 1 and 20. Reconsideration of the rejection of paragraph 7 of the Office Action is requested.

Turning now to the paragraph 10 rejection of claims 9 and 15-17 under 35 U.S.C. §103(a) as being unpatentable over You in view of Lazarevic, Lazarevic is cited for the use of a worm gear 28, a drive gear 64 and a main shaft (see Fig. 10) for the purpose of obtaining a large torque, which increases the cutting force. Applicant respectfully submits that the You device in view of Lazarevic does not render obvious claims 9 and 15-17, because Lazarevic does not disclose that which is not taught by You. It is admitted in the Office Action that You fails to teach a worm gear, a drive gear, and a main shaft, but Lazarevic does not disclose “a main shaft mounted for rotation in the housing, and a worm gear mounted for rotation with the main shaft and in engagement with the worm,” as required by independent claim 9. Instead, Lazarevic incorporates fixed post 69, about which the drive gear 29 and worm gear 28 rotate. Hence, the paragraph 10 rejection of claim 9, as well as the rejections of its dependent claims in paragraphs 11-13, is improper because Lazarevic discloses neither the required main shaft nor worm gear. Furthermore, as described above, Lazarevic is neither in the field of Applicant’s endeavor nor reasonably pertinent to the particular problem addressed in the present application, so it cannot be included in a proper rejection of claims 9-17.

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In addition to the above reasons, the paragraph 10 rejection of claims 16 and 17 are improper because Lazarevic teaches neither a drive gear mounted for rotation with the main shaft, a segment gear engageable with the drive gear, nor a main shaft supported by at least three bearings for rotational movement. As described previously, the main shaft of Lazarevic is in fact a fixed post, so it is incapable of rotational movement and, therefore, a drive gear cannot rotate “with the main shaft” and rotational bearings are neither required nor supplied. Also, Fig. 2 of Lazarevic clearly shows that the segment gear 19 is not engageable with the drive gear 29, but instead engages two idlers 31 and 32.

In view of the foregoing remarks, Applicant respectfully requests withdrawal of the 35 U.S.C. 103(a) rejection and allowance of claims 9-17 as presented.

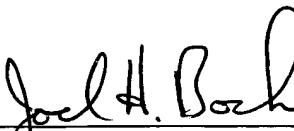
Regarding the rejection of claims 18-19 under 35 U.S.C. §103(a) as being unpatentable over Hirabayashi, we note the Examiner’s acknowledgment that Hirabayashi fails to show a third bearing. Hirabayashi neither discloses nor contemplates a main shaft which is supported by three bearings. The invention of claims 18 and 19 does not constitute a mere duplication of parts, as asserted in the Office Action, because it improves the operation of the cable cutter. First, it is much easier to align a shaft with two bearings than with three bearings, so adding a third bearing would require more than just another part. This is confirmed in Dibbern, Jr. et al. 5,873,282, which states at lines 58-66 of column 1: “If a third bearing is added to support the distal end of the armature shaft, the armature would then be supported in three bearings at spaced locations. Because of the tolerances inherent in the design of power tools, the accurate alignment of a single shaft in three spaced bearings is difficult. Misalignment will, of course,

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cause the development of friction and excessive heat in the bearings, leading to poor performance and potential failure of the device." Hence, the addition of a third bearing is not a mere duplication of parts. Second, adding a third bearing provides needed support to the main shaft. The cable cutter of the present invention is capable of providing a large shearing force, by operation of the rotating main shaft in concert with at least one of the cutting blades. Compared to the standard two bearings, the addition of a third bearing provides greatly improved support in light of the forces acting upon the main shaft (page 8, paragraph 34). In contrast, the Hirabayashi device does not disclose a third bearing, because there is no main shaft which is subject to the forces associated with the present invention. Reconsideration is requested.

In view of all the foregoing, reconsideration and allowance of all pending claims are respectfully requested. If any additional fees are required, the Commissioner is hereby authorized to charge Deposit Account No. 50-1039.

Respectfully submitted,

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